

Summary of *Salmonella* serotype Enteritidis Outbreaks Reported in 2001

State and local health departments reported 46 confirmed outbreaks of *Salmonella* serotype Enteritidis (SE) infection to CDC for calendar year 2001. These outbreaks resulted in 1681 reported illnesses, 102 hospitalizations and no deaths among residents of 23 states (Table). Compared with 2000 data, there were 4 fewer outbreaks, 49 fewer hospitalizations, and 720 more illnesses in 2001. The median number of cases per outbreak was 10 in 2001, compared with 6 in 2000.

A suspected food vehicle was identified for 29 (63%) of 46 outbreaks; 24 of these were confirmed by culture or statistical association. Eggs were an ingredient in 15 (63%) of 24 confirmed vehicles, including meringue pie, home-made ice cream, and butter. In addition, eggs were an ingredient in one (20%) outbreak in which the suspected food item was not confirmed. Between 1993 and 1999, an average of 80% of vehicle-confirmed outbreaks have been egg-associated.

Twenty-eight (61%) of the 46 outbreaks occurred in commercial food establishments (e.g., restaurants, delicatessens, bakeries, caterers), one (2%) outbreak occurred in a long-term care facility, two (4%) occurred in correctional facilities, and 14 (30%) took place in the general community (e.g., private homes, day care facilities, community centers, religious meeting places). For comparison, 60% of outbreaks between 1993 and 1999 occurred commercial food establishments, 4% occurred in nursing homes or long-term care facilities, and 8% in the general community.

An egg traceback investigation was conducted for 10 (63%) of 17 outbreaks in which the confirmed vehicle was eggs. Two traceback investigations narrowed to a distributor as the likely source of implicated eggs, five narrowed to multiple farms, and two narrowed to a single farm. Information for one traceback was not available. Environmental testing for SE was conducted in three investigations. SE was isolated from the environment of one farm; eggs from this farm were diverted to pasteurization.

Phage typing was performed on patient isolates in 24 (52%) of outbreaks. SE phage type 8, which accounted for 28% of the reported outbreaks between 1993 and 1999, accounted for 38% of the 24 SE outbreaks in 2001. Five SE phage type 8 outbreaks occurred in eastern states; none occurred in Michigan or Ohio. An egg-containing food vehicle was suspected or confirmed in 3 (33%) SE phage type 8 outbreaks. Among the remaining outbreaks for which isolates were phage typed, 5 (22%) were caused by phage type 13a and 2 (8%) by phage type 13. Phage type 913, historically rare in the United States, caused one outbreak linked to mung bean sprouts made from imported bean seeds.

While the number of SE outbreaks reported for the New England and Mid-Atlantic states increased slightly from 10 in 2000 to 12 in 2001, the number is considerably lower than the 42 outbreaks reported from that part of the country in 1992. The number of SE outbreaks reported in the Mountain and Pacific states decreased from 22 in 1999 to six in

2001. Although the precise reason for the decrease in both regions is unclear, it may be a combination of increased participation in egg quality assurance programs on farms, improvements in egg preparation practices, and food handler education.

***Salmonella* serotype Enteritidis outbreaks reported to CDC, by January 1 – December 31, 2001**
Updated 12/18/2002

CDC ID #	Onset Month	State	City or County	Cases (#)	Hosp (#)	Deaths (#)	Exposure Location	Phage type ²	Suspected Vehicle	Vehicle Confirmed? ¹	Confirmed Vehicle Contained Shell Eggs?	Egg Trace back Done ?	SE Isolated From Farm?
1	1	CT	Fairfield	6	1	0	Restaurant	RDNC	Unknown	N	–	–	–
2	1	DC	N/A	10	3	0	Restaurant		Crab cakes	Y	N	–	–
3	1	HI	Oahu	26	0	0	Community	1	Mung bean sprouts	N	–	–	–
4	2	MD	Baltimore	9	0	0	Restaurant	8	Unknown	N	–	–	–
5	2	SC	Richland	688	0	0	Correctional facility	2	Tuna salad w/egg	Y	Y	Y: Local	Y
6	3	IL	Libertyville, Lake	3	3	0	Unknown		Unknown	N	–	–	–
7	3	OH	Portage	53	10	0	Restaurant	13a	Eggs	Y	Y	Y: Local	N/A
8	4	FL	Orange/Seminole	30	0	0	Restaurant	913	Mung bean sprouts	Y	N	–	–
9	4	MD	Prince George's	3	1	0	Private Home	8	Homemade ice cream	N	Y ³	N	N
10	4	ME	Waterville	23	5	0	Restaurant	13	Hollandaise sauce	Y	Y	Y: Local	N/A
11	4	VA	Henrico	231	34	0	Restaurant	8	Raw egg butter	Y	Y	FDA	N/A
12	4	ML*	Jackson	4	0	0	Community	30	Raw almonds	Y	N	–	–
13	5	CT	New London	6	1	0	Restaurant		Prime rib	Y	N	–	–
14	5	MN	Hennepin	46	0	0	Hotel	13a	Eggs benedict	Y	Y	Y: Local	N
15	5	PA	Bucks	10	0	0	Community	8	Unknown	N	–	–	–
16	5	TX	Richland	12	0	0	Catered Event	2	Cake icing w/egg	Y	Y	N	–
17	6	CA	Los Angeles	17	0	0	Conference	8	Chicken salad	N	–	–	–
18	6	ID	Emmett	12	4	0	Private Home		Homemade ice cream	Y	Y	Y: Local	N
19	6	IL	Chicago,	3	2	0	Restaurant	13	Unknown	N	–	–	–

Cook													
20	6	MA	Scituate Anne	47	6	0	Country Club	RDNC	Steak, salad dressing, ice	Y	N	–	–
21	6	MD	Arundel Baltimore	3	0	0	Restaurant	8	Meringue pie	Y	Y	N	–
22	6	MD	City	26	0	0	Private Home		Multiple	Y	Y	N	–
23	6	ME	Hancock	6	2	0	Restaurant		Unknown	N	–	–	–
24	6	MN	Fairbault	18	4	0	Restaurant	13a	Eggs	Y	Y	Y: Local	N/A
25	6	NC	Multiple	113	0	0	Community	13a	Eggs	Y	Y	Y:FD A	N/A
26	6	PA	Lycoming	2	3	0	Church		Coconut cream pie	Y	Y	Y: Local	N/A
27	6	PA	N/A	2	1	0	Cruise Ship		Unknown	N	–	–	–
28	6	VA	Lynchburg	28	0	0	Restaurant	RDNC	Unknown	N	–	–	–
29	7	AZ	Scottsdale Chicago,	3	0	0	Cruise Ship	13A	Unknown	N	–	–	–
30	7	IL	Cook	29	4	0	LTC facility	8	Unknown	N	–	–	–
31	7	MA	Harwich Baltimore	6	0	0	Convention Center	8	Bernaise sauce	Y	N	–	–
32	7	MD	County	2	1	0	Restaurant	8	Pasta w/salmon Egg salad, tuna salad, chicken salad	N	–	–	–
33	7	MI	Isabella Mid-	34	2	0	Restaurant/Casino			Y	Y	N	–
34	7	MI	MIDHO	5	0	0	Restaurant		Eggs	Y	Y	N	–
35	7	OH	Summitt	10	6	0	Restaurant		Crab cake, lobster cake, crab-stuffed lobster	Y	Y	Y: Local	N/A
36	7	PA	Franklin	5	0	0	Camp		Unknown	N	–	–	–
37	7	VA	Scott Schaumbu	64	5	0	Camp		Unknown	N	–	–	–
38	8	IL	rg, Cook	2	2	0	Restaurant		Unknown	N	–	–	–
39	9	IA	Ames	4	0	0	College		Chicken strips	N	–	–	–
40	9	NY	Suffolk	26	0	0	Bakery		Pastries	Y	Y	N	–
41	10	NY	Nassau	18	0	0	Bakery		Cakes with icing	Y	N	–	–
42	11	FL	Orange	4	0	0	Restaurant		Turkey sandwich	Y	N	–	–
43	11	MD	Wicomico	7	1	0	Private Home		Unknown	N	–	–	–

44	11	WA	King	5	0	0	Resort	Unknown	N	—	—	—
45	11	WA	Multiple	12	0	0	Community	Unknown	N	—	—	—
46	12	MI	Branch	8	1	0	Correctional facility	Unknown	N	—	—	—
Total	46			1681	102	0						

* Multistate outbreak involving WV (2 cases), onset in April and MI (2 cases), onset in June related to large Canadian outbreak from almonds grown in California

¹ Based on reliable epidemiological information, statistical implication, or SE isolation from remaining food samples

² RDNC = Reacted but did not conform (various phage lysis patterns)

³ Although vehicle, not confirmed, suspect vehicle contained raw eggs